REMARKS

Applicant concurrently files herewith a petition and fee for a one-month extension of time.

Claims 1-18 remain pending in this application. By the above amendments, claims 1-5, 7, 9, 10, 12, and 14-18 have been amended to more particularly define the invention.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, or narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

In the Final Rejection, claims 15-18 were rejected under 35 U.S.C. §112, second paragraph, with the contention that the word "those" resulted in the claims being unclear. By the above amendments, the word "those" has been deleted, thus overcoming this rejection.

Also in the Final Rejection, claims 1-7, 9, and 11-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sreedhar, et al., U.S. Patent No. 6,182,284 B1 in view of Sastry, United States Patent Publication No. 2002/0166115 A1. Dependent claims 8, 10, 17 and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sreedhar in view of Sastry, and further in view of Van Dyke, United States Patent No. 5,175,856. These rejections are respectfully traversed.

In one aspect, the claimed invention is directed to a method for determining the correctness of a potential interprocedural dead store optimization for an optimizing compiler. In another aspect, the claimed invention is directed to a computer program product for the

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compilation of computer code. In a further aspect, the claimed invention is directed to an

optimizing compiler. In yet another aspect, the claimed invention is directed to a component

for determining the correctness of a potential interprocedural dead store optimization for an

optimizing compiler.

Attached are definitions of "call graph" and "control flow graph" which were obtained

from readily accessible Internet sites. A call graph is a diagram that identifies modules in a

system or computer program and shows which modules call one another. These modules are

procedures. Thus, a call graph shows the relationship between procedures; i.e.,

INTERprocedural relationships. In contrast, a control flow graph is a diagrammatic

representation of the possible alternative control flow paths through a component, or an

abstract representation of a procedure. Thus, a control flow graph shows the relationships

within a procedure; i.e., INTRAprocedural relationships.

The claimed invention relates to INTERprocedural optimization. Each aspect of the

claimed invention is directed to interprocedural dead store optimization, which deals with

analysis ACROSS procedures. The invention involves a call graph, which shows the

relationship between procedures. The invention involves determining a live on exit set of

variables for procedures, and determining a live on exit set of variables for procedure call

points. Thus, these are global variables.

Sreedhar relates to INTRAprocedural optimization, which deals with analysis

WITHIN a procedure. Sreedhar analyzes sets of variables that are live at the beginning and

end of basic blocks. See Sreedhar at column 2, lines 57-63. Thus, these are variables within

a procedure. Thus, Sreedhar is concerned with control flow graphs and local variables.

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Sastry is likewise concerned with <u>control flow</u> graphs. See Sastry at page 2, paragraph 0012. Thus, Sastry likewise relates to INTRAprocedural optimization.

The Office Action quotes from Van Dyke "The symbol node 110 points to an array of bit vectors 150, each bit vector containing one entry for each <u>block node</u> 106 in the program. This array is indexed by the depth-first numbering of the <u>block nodes</u> 106." Block nodes are <u>within</u> procedures.

A person skilled in the art, after reviewing Sreedhar, Sastry, and Van Dyke, would not find it obvious to go from live on exit from basic blocks, as in Sreedhar, to live on exit from procedures, as in the claimed invention. Sreedhar's INTRAprocedural optimization requires checking only <u>within</u> a <u>single procedure</u> for a <u>local</u> variable. The claimed invention involves INTERprocedural optimization, and so involves <u>global</u> variables. <u>All</u> locations within the <u>program</u> from which the procedure is called must be determined. Further, this must be done in a <u>top down fashion</u>. <u>All</u> call points must be checked.

Sreedhar, Sastry, and Van Dyke each relate to <u>intraprocedural</u> optimization. Thus, even if combined, they would still relate only to <u>intraprocedural</u> optimization, and so would <u>not</u> suggest the claimed invention.

The above was argued in the Amendment Under 37 C.F.R. §1.116 filed August 16, 2005 in response to the Final Rejection. The Advisory Action mailed September 9, 2005 indicates that, although the Amendment argues that the invention involves "global" variables, while the references involve "local" variables, a "global" limitation is not found in the claims. It is respectfully submitted that the "global" limitation was <u>inherent</u> in the claims prior to the above amendments. As set forth above, the claimed invention deals with analysis ACROSS

procedures and involves a <u>call graph</u>, which shows the relationship <u>between</u> procedures. The invention involves determining a live on exit set of variables for <u>procedures,</u> and determining a live on exit set of variables for <u>procedure</u> call points. <u>Inherently,</u> these are <u>global</u> variables.

In contrast, the references relate to INTRAprocedural optimization, with <u>control flow graphs</u> and <u>local</u> variables.

To assure that this is apparent, the independent claims have been amended to explicitly state that the variables are "global" variables. In view of the inherent inclusion of this limitation prior to the above amendments, the amendments do not alter the scope of the claims. Further, that the variables are global variables is brought out in numerous places in the specification, for example at page 6, line 22, page 7, lines 6 and 16, page 8, line 14, page 9, lines 5, 7, 22, and 23, page 10, lines 14 and 21 and page 12, line 5.

As stated, the references relate to local variables and neither teach nor suggest the claimed invention. It is accordingly submitted that the claims distinguish from the references in an unobvious manner and are <u>allowable</u>.

In view of the foregoing, Applicant submits that claims 1-18, all the claims presently pending in the application, are <u>patentably distinct</u> over the prior art of record and are <u>allowable</u>, and that the application is in <u>condition for allowance.</u>

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned attorney at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.
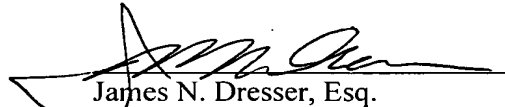
To the extent necessary, Applicant petitions for an extension of time under 37 CFR

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§1.136. Please charge any shortage in the fees due in connection with the filing of this paper,

including extension of time fees, to Attorney's Deposit Account No. 50-0510 and please

credit any excess fees to such deposit account.

Respectfully Submitted,

Date: _October 12, 2005_

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